IN THE CLAIMS:

This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of the Claims:

1. (Original) A method of detecting a target in a scene, the method comprising the steps of

   (a) obtaining a first data set of data elements which correspond to returns from different parts of the scene; and

   (b) determining a detection threshold for a part of the scene by reference to data elements corresponding to returns from neighbouring parts of the scene;

   characterised in that

   (i) the method further comprises the steps of

   (c) obtaining a second data set of data elements which correspond only to clutter returns from different parts of the scene; and

   (d) identifying clutter returns in the first data set by comparing the first and second data sets;

   and

   (ii) in step (b), data elements identified in step (d) as corresponding to clutter returns are discounted in determining the detection threshold.

2. (Original) The method of claim 1 wherein the data elements correspond to returns from a given direction, and wherein the method comprises the steps of

   (a) assigning the data elements to a linear array of contiguous range cells on the basis of range;

(b) determining a detection threshold for a part of the scene corresponding to a given range cell by reference to data elements assigned to the first and last n-1 cells of a reference group of 2n+1 cells (n ≥ 2) centred on the given cell; and

(c) discounting data elements assigned to the first or last n-1 cells of the reference group if data elements corresponding to clutter returns are assigned to any of the first n-1 range cells in the reference group, or to any of the last n-1 range cells in the reference group, respectively..

3.   (Currently amended) The method of claim 1 ~~or claim 2~~ wherein data corresponding to a plurality of returns from an object is combined to provide within-beam integration gain.

4.   (Original) The method of claim 3 wherein said data is combined using a Gaussian filter.

5.   (Currently amended) A method according to ~~any preceding claim~~claim 1 wherein the data set comprises data from a radar or lidar system.

6.   (Currently amended) A computer program for performing a method according to ~~any preceding claim~~claim 1.

7.   (Currently amended) A computer programmed to perform a method according to ~~any of claims 1 to 5~~claim 1.

8. (Currently amended) Apparatus (10) for detecting a target, the apparatus comprising means (12) for generating and detecting returns from different parts of a scene and for generating signals corresponding to the returns, and processing means (16) arranged to receive said signals and perform target detection thereon, characterised in that the processing means is arranged to execute a method according to ~~any of claims 1 to 5~~claim 1.

9. (Original) The apparatus of claim 8 wherein the means for generating and detecting returns from objects and for generating signals corresponding to the returns is a radar or lidar system.

10. (Original) The apparatus of claim 8 further comprising a camera system and wherein the processing means is arranged to output data corresponding to the position of a detected target to the camera system, which is arranged to form an image of the object upon receiving said data.

11. (Currently amended) A method of tracking a target comprising the steps of

(a) detecting and locating the target; and

(b) recording the target's location as a function of time

characterised in that step (a) is performed by a method according to ~~any of claims 1 to 5~~claim 1.

12. (Original) The method of claim 11 further comprising the steps of

(i) defining one or more target behaviours;

(iii) associating each target behaviour with a part of the scene; and

(ii) generating a warning signal if one or more detected targets conforms to a defined target behaviour associated with a part of the scene in which the target is detected and/or tracked.

13.　(Original)　The method of claim 12 comprising the steps of

(i) defining first and second parts of the scene;

(ii) generating a warning signal in the event that a moving object is detected in the first part of the scene and a stationary object is subsequently detected in the second part of the scene.

14.　(Currently amended)　A computer program for performing a method according to ~~any of claims 11 to 13~~claim 11.

15.　(Currently amended)　A computer programmed to perform a method according to ~~any of claims 11 to 13~~claim 11.

16.　(Currently amended)　Apparatus (10) for tracking a target, the apparatus comprising means (12) for generating and detecting returns from objects in the area and for generating signals corresponding to the returns, processing means (16) arranged to receive said signals and perform target detection thereon and a data store for storing data corresponding to the position of a detected target as a function of time, characterised in that the processing means is arranged to execute a method according to ~~any of claims 11 to 13~~claim 11.

17. (Original) The apparatus of claim 16 wherein the means for generating and detecting returns from objects in the area and for generating signals corresponding to the returns is a radar or lidar system.

18. (Original) The apparatus of claim 16 further comprising a camera system and wherein the processing means is arranged to output data corresponding to the position of a detected target to the camera system, which is arranged to form an image of the object upon receiving said data.